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SUPERFUND DIVISION

**Remedial Action
Final Inspection Report**

Rose Chemicals Site

Holden, Missouri

prepared for:

Rose Chemicals
Steering Committee

prepared by:

Clean Sites, Incorporated
Alexandria, Virginia

submitted to:

U.S. EPA Region VII
Kansas City, Kansas

August 21, 1995



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SUPERFUND RECORDS



CLEAN SITES

1.0 SITE BACKGROUND

The following discussion provides a history of activities at the Martha C. Rose Chemicals, Inc., (Rose Chemicals) Site and describes the Record of Decision, Administrative Orders (AO), and remedial design submittals that lead to implementation of the remedy construction.

1.1 Site History

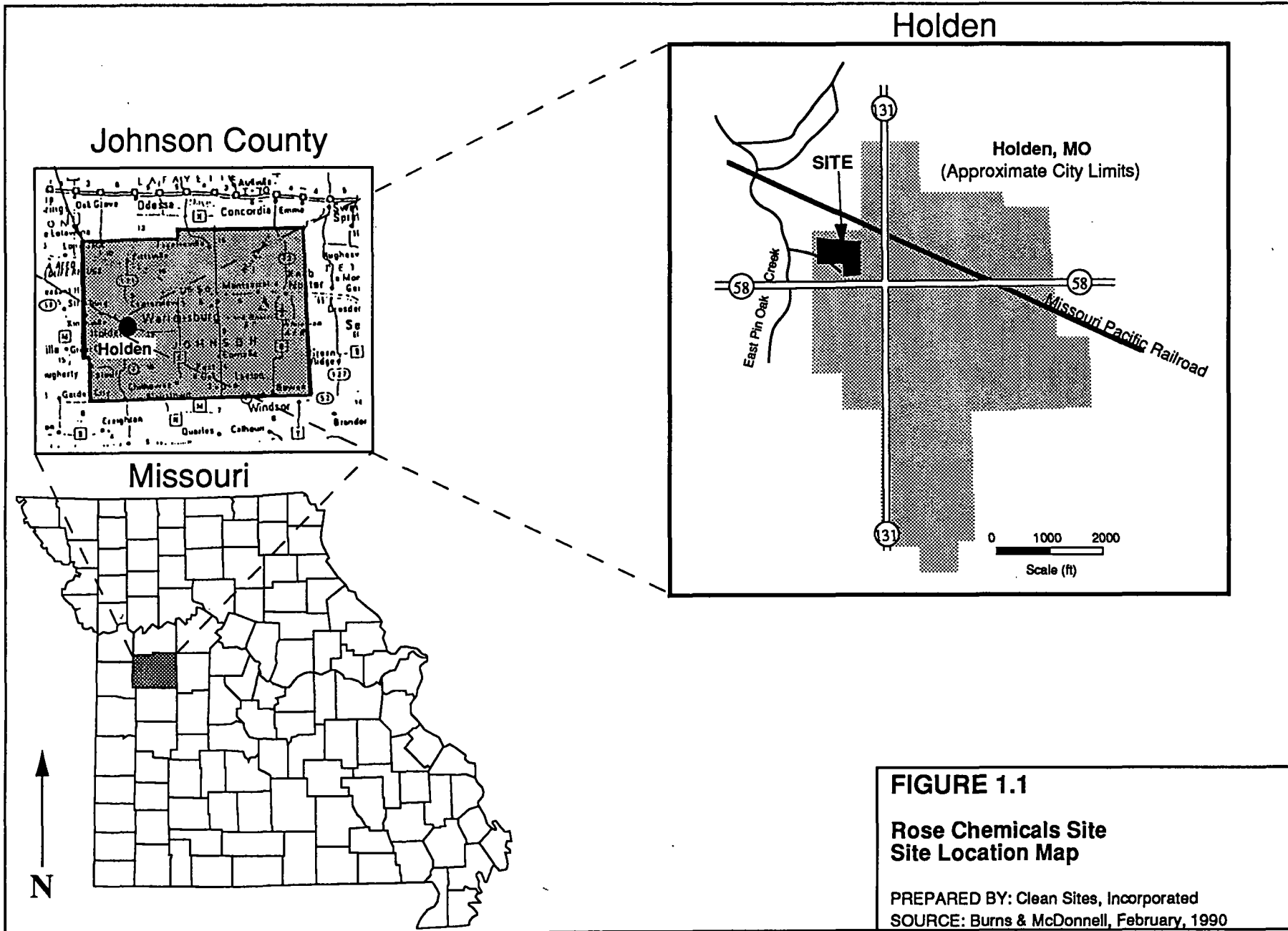
The Rose Chemicals Site is located in the City of Holden, Johnson County, Missouri as shown in **Figure 1.1**. The Site is limited to the property owned by the City of Holden (upon which Rose Chemicals operated) and the contiguous areas to which polychlorinated biphenyls (PCBs) have been released as a result of Rose Chemicals' operations; including East Pin Oak Creek and an intermittent unnamed tributary to East Pin Oak Creek, which flows through the southwest corner of the site. The Site is located at 500 West McKissock Street, north of Missouri Highway 58. The 13-acre Site contained two major buildings, the Main Building and the South Warehouse, that have a combined floor area greater than 100,000 square feet.

In 1982, Rose Chemicals began operations as a PCB-processing facility. Rose Chemicals was authorized by USEPA to decontaminate mineral oil dielectric fluids containing PCBs at concentrations equal to or less than 10,000 milligrams per liter (mg/l), and to dismantle and decontaminate PCB transformers and capacitors for the purpose of recycling metals and disposal of nonrecyclable materials. During its period of operation, Rose Chemicals received approximately 23 million pounds of PCB materials. Rose Chemicals ceased operations at the Site in February 1986, abandoning approximately 14 million pounds of PCB materials. As a result of Rose Chemicals' operations, PCBs were released to the environment.

On October 29, 1987, USEPA issued an Administrative Order on Consent, Docket No. 87-F-0007 to the RCSC (AO1). Pursuant to AO1, PCB solids and liquids were removed from the Site and disposed in a Toxic Substances Control Act (TSCA)-permitted chemical waste landfill or treated at a TSCA-permitted incineration facility.

Following the removal activities, USEPA issued another Administrative Order in 1988 (AO2) to conduct a Remedial Investigation/Feasibility Study (RI/FS) at the Site. Under the terms of AO2, the RCSC conducted a remedial investigation (RI) and a feasibility study (FS).

The RCSC submitted the Report on the Remedial Investigation of the Rose Chemicals Site, Holden, Missouri by Burns and McDonnell Engineering Company to USEPA in February 1990. The RI identified PCBs in surface and subsurface soils, pond sediments, the sediments of East Pin Oak Creek and an unnamed tributary to East Pin Oak Creek,



and in site buildings. The following information concerning site conditions was concluded from the RI:

- o Limited surface soils contain PCBs at concentration greater than 500 mg/kg.
- o Subsurface soils contain PCBs at concentrations up to 700 mg/kg.
- o Sediments in East Pin Oak Creek and the unnamed tributary contain PCBs at concentrations up to 293 mg/kg.
- o Buildings, including concrete floor slabs, contain PCBs at concentrations up to 670,000 mg/kg.

The Feasibility Study for the Rose Chemicals Site, Holden, Missouri, by Burns and McDonnell Engineering Company, was submitted by the RCSC to USEPA in September 1990. The FS evaluated six remedial alternatives and screened out all but the following two alternatives:

- Alternative 4 - removal and disposal of the PCB-containing sediments, removal and disposal of the Site buildings, and capping of the Site; and
- Alternative 6 - removal and disposal of the PCB-containing sediments, removal and disposal of PCB-containing soils greater than 10 mg/kg PCBs, removal and disposal of the Site buildings and concrete floor slabs, and backfilling excavated areas of the Site with clean soil.

1.2 Record of Decision

The USEPA decision on the Remedial Action (RA) to be implemented at the Site is embodied in the final Record of Decision (ROD) for the Martha C. Rose Chemicals, Inc., Site issued on March 6, 1992.

The ROD selected Alternative 6 from the FS and included a modification to prevent withdrawal of shallow groundwater. The major components of the remedy chosen by USEPA and detailed in the ROD are:

- 1) removal and offsite disposal of sediments containing PCBs above 0.18 mg/kg from the East Pin Oak Creek and the unnamed tributary;
- 2) removal and offsite disposal or treatment and disposal of surface and subsurface soil containing PCBs above 10 mg/kg;

- 3) dismantling of the Main Building and South Warehouse, including floor slabs and insulation, and offsite disposal or treatment and disposal of the debris;
- 4) backfilling all excavated areas with clean soil and regrading;
- 5) monitoring of ground water for a minimum 10-year period;
- 6) prohibiting by deed restriction the use of ground water at the site for purposes other than ground water contamination monitoring; and
- 7) treatment of soils, sediments, and other debris containing elevated levels of PCBs either on site or offsite prior to disposal.

1.3 Administrative Order

On September 4, 1992, Region VII of the U.S. Environmental Protection Agency (USEPA) issued an Administrative Order for Remedial Design and Remedial Action, Docket No. VII-92-F-0026 (AO3), for the Martha C. Rose Chemicals, Inc., Site in Holden, Missouri. The Order was issued pursuant to Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. Section 9606(a). The Order directs the Respondents, the Rose Chemicals Steering Committee (RCSC), and others to perform the Remedial Design (RD) for the remedy described in the Record of Decision issued on March 6, 1992 and to implement the remedial design by performing a Remedial Action (RA).

On November 30, 1992, USEPA issued a Modification to the Order. The Modification, effective December 17, 1992, amends the language of the earlier Order concerning RD/RA document deliveries and implementation requirements.

1.4 Remedial Design Documents

Consistent with the instruction of AO3, the RCSC initiated the remedial design. They retained Clean Sites, Inc. to develop the remedial design documents which comprised various plans, specifications, and drawings. The first submittals under the RD phase of the project were the Remedial Design Work Plan and the Remedial Design Site Health and Safety Plan. These documents were completed by Clean Sites on behalf of the RCSC and submitted to USEPA on January 17, 1993. Attached to the RD Work Plan were; 1) a sampling and analysis plan for the collection of concrete cores, and 2) a Remedial Design Quality Assurance Project Plan. The RD Work Plan described data collection efforts to be undertaken and the content of each subsequent RD submittal (60 percent, 95 percent, 100 percent).

The RCSC submitted the first of these submittals, the Preliminary Remedial Design Document

by Clean Sites, to USEPA on June 1, 1993. The Preliminary RD included results from RD concrete sampling, design plans, specifications, a construction schedule, and quality assurance project plan objectives. The concrete sampling was designed to more clearly define those areas of concrete slabs containing PCBs above the USEPA action level for treatment.

The Preliminary RD was approved and comments were received from USEPA on June 22, 1993 and from the Missouri Department of Natural Resources (MDNR) on July 13, 1993. Their comments were incorporated into the Prefinal RD. The RCSC submitted the Prefinal Remedial Design Document by Clean Sites to USEPA on August 23, 1993. The Prefinal RD included, in addition to the Preliminary RD, more detail in the plans and specification sections, a contingency plan, an operations and maintenance plan, a cost estimate, and drawings.

The Prefinal RD was approved and comments were received from USEPA on September 20, 1993. Their comments were incorporated into the Final RD. The RCSC submitted the Final Remedial Design Document by Clean Sites to USEPA on October 20, 1993. The Final RD included the same plans, specifications, and drawings as the Prefinal RD with only minor changes, and included a Preliminary Remedial Action Field Sampling and Analysis Plan.

Approval of the Final RD was received from USEPA on November 18, 1993. There were two comments to the Final RD Document; these were addressed and forwarded to USEPA on December 9, 1993.

1.5 Remedial Action Documents

On behalf of the RCSC, Clean Sites retained U.S. Pollution Control, Incorporated (USPCI) to perform the construction at the Rose Chemicals Site. Notification of contractor selection was forwarded to USEPA on February 3, 1994. The RCSC submitted a draft Remedial Action Work Plan by USPCI to USEPA on March 28, 1994. The RA Work Plan described the contractor's approach for implementing the construction and included a RA Health and Safety Plan, Erosion and Sedimentation Control Plan, Construction Quality Control Plan, and a Site-Specific Emergency Contingency Plan.

Comments to the draft RA Work Plan were received from USEPA around April 8, 1994. Their comments were incorporated into the Final RA Work Plan by USPCI which was submitted on behalf of the RCSC to USEPA on May 4, 1994. The final submittal included the Final Remedial Action Field Sampling and Analysis Plan by Clean Sites. USPCI mobilized to the Site on May 2, 1994.

2.0 SITE INSPECTIONS

A Prefinal Inspection was held at the Rose Chemicals Site on February 1, 1995. The inspection was attended by representatives from USEPA, the RCSC, Clean Sites (the project coordinator), USPCI (the prime construction contractor), and Burns & McDonnell Waste Consultants (B&MWCI, the Independent Quality Assurance Team). USEPA and Clean Sites reviewed each construction and support activity that was included in an inspection checklist. After discussing each item, USEPA determined the status of each construction item after completing the checklist. Completed and outstanding construction activities at the time of the inspection are detailed in the Prefinal Inspection Report which was submitted to USEPA on February 15, 1995.

On August 3, 1995, a Final Inspection was held at the Rose Chemicals Site. Extremely wet weather during the months of March, April, and May delayed backfilling and seeding. The inspection was attended by representatives from USEPA, MDNR, the RCSC, Clean Sites, USPCI, and B&MWCI. USEPA evaluated each construction and support activity identified as incomplete during the Prefinal Inspection via reviewing an activity punchlist. Section 2.2 of the Prefinal Inspection Report was used as a guide to develop the punchlist. After a brief site walk-through, USEPA and MDNR determined the status of each construction item after completing the punchlist. The completed punchlist is contained in Appendix A.

2.1 Activities Completed

The following discussion describes those outstanding construction activities identified during the Prefinal Inspection that were completed during the final phase of the Remedial Action. At this point, all Remedial Action construction activities have been completed.

Monitoring Wells

Monitoring well 207 was damaged during the construction while removing storm sewer pipes. This shallow well was replaced with monitoring well MW-207R and was positioned approximately 10 feet northwest of its original location. The well screen interval was placed 5-9 feet below grade. QED Well Wizard sampling systems were installed in MW-207R and two other wells that were missing the systems. All wells that are in the long-term monitoring network are now equipped with sampling systems.

Backfill

Soil fill and topsoil were brought onsite from offsite borrow sources. A minimum of 6 inches of soil fill (Type S1) was placed over the eastern portion of the site followed by a minimum of 4 inches of topsoil (Type S3). The 10 inches of clean fill was compacted during its

placement. Approximately 7,500 CY of Type S1 material and 5,700 CY of Type S3 material were brought onsite.

Chain Link Fence

The chain link fence was completed prior to backfilling activities. The southwestern fence line was moved north of and adjacent to the unnamed tributary instead of crossing the creek as depicted in the Drawings. The movement of the fence alignment eliminated the possibility of debris clogging it from heavy flows in the unnamed tributary and was agreed to by the City of Holden. Additional fence repairs were completed in the northeast corner near well cluster MW-214/114 and the Highway 58 gate.

Final Grading

After the placement of each fill type, the site was graded and sloped to promote drainage and mimic the existing topography. The site was also graded to prepare the soil for seeding.

Seeding

Seed was applied to the areas onsite that were backfilled. The seed was mixed locally and included the Spring seed mixture identified in the Specifications. Based on a recommendation from the local seeding contractor, an additional 35 pounds of tall fescue and 15 pounds of perennial rye per acre was added to the mix. Approximately 650 pounds of seed was applied. The area adjacent to the Holden wastewater treatment plant was also seeded. A full stand of grass is expected by the Spring growing season.

Surveying

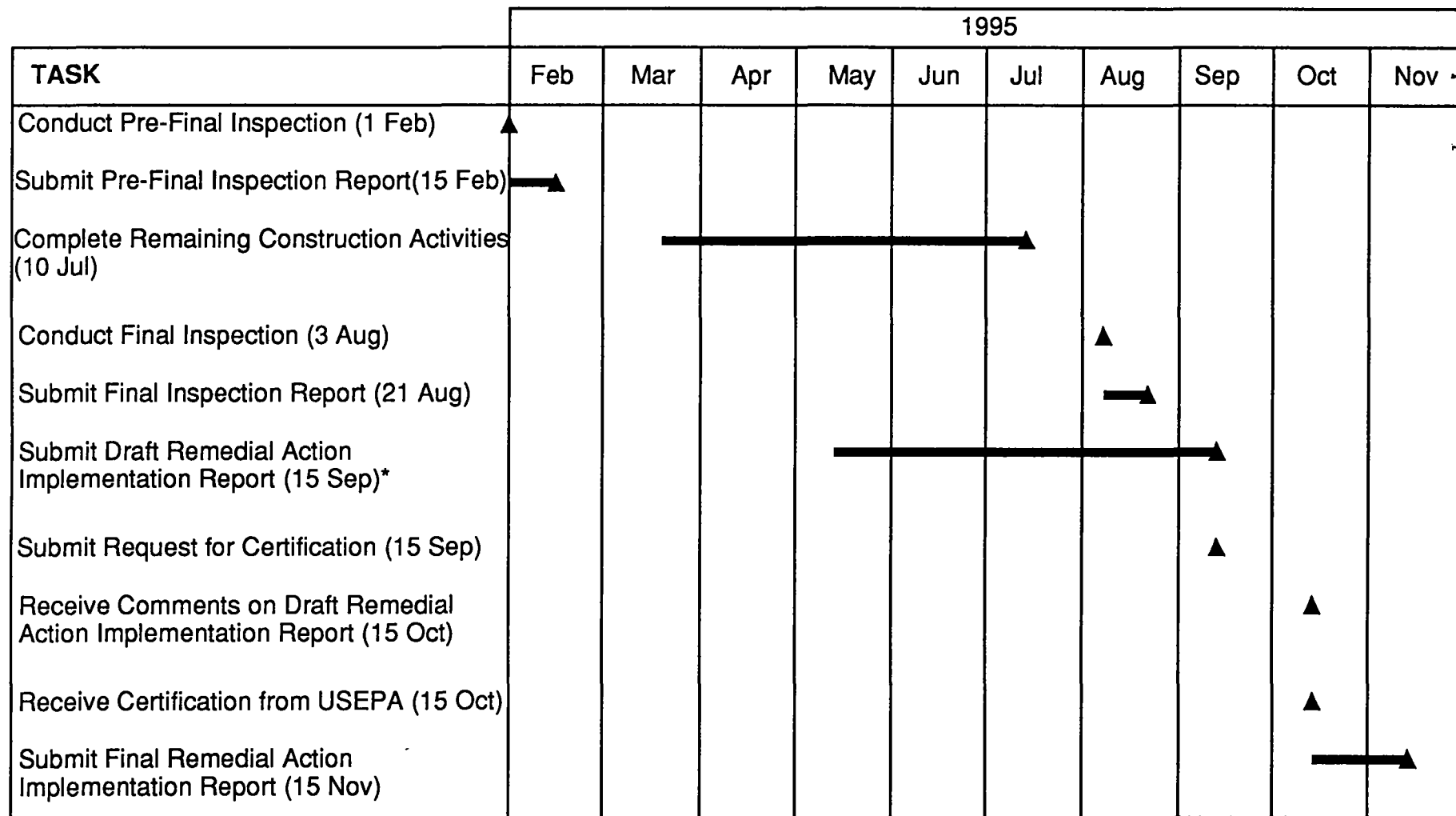
Surveys were completed to calculate backfill volumes and present final elevations for the site. Two permanent benchmarks were established onsite. The backfill as-built drawings were stamped by a Missouri-licensed surveyor. Copies of the as-built drawings will be attached to the Remedial Action Implementation Report.

3.0 REMEDIAL ACTION CLOSURE

"Close out" activities for the Rose Chemicals Site started on February 1, 1995 with the Prefinal Inspection and submission of the Prefinal Inspection Report on February 15. Since that time, all outstanding Remedial Action (RA) construction activities have been completed. The Final Inspection was held on August 3 and this Final Inspection Report is being submitted on August 18. All that is left to close out the RA is submission of the Remedial Action Implementation Report (RAIR) and a request for Certification of Completion of the Remedial Action.

Figure 3.1 depicts a schedule of the close out activities for the Rose Chemicals Site. AO3 allows 60 days to submit the Draft RAIR after the Final Inspection. This schedule will be expedited and the Draft RAIR will be submitted approximately 45 days after the Final Inspection. Certification for Completion of the Remedial Action will be submitted concurrently with the Draft RAIR. Originally, the certification was planned to be submitted with this report, however, it is more appropriate to accompany the RAIR because the RAIR will contain the final as-builts for the Site. Assuming a one month turnaround by USEPA and MDNR on the Draft RAIR, the Final RAIR will be submitted on November 15, 1995.

**Figure 3.1
ROSE CHEMICALS SITE
CLOSE OUT SCHEDULE**



* The Administrative Order allows 60 days from the Final Inspection (October 2) for submission of the Remedial Action Implementation Report.

APPENDIX A
FINAL INSPECTION PUNCHLIST

ROSE CHEMICALS SITE REMEDIAL ACTION
FINAL INSPECTION PUNCHLIST

<u>CONSTRUCTION ACTIVITY</u>		APPROVED	REJECTED	APPROVED Conditionally (see remarks)
6.	Monitoring Wells			
	B. QED Systems	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	D. MW-207 replacement	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.	Backfill			
	A. Soil Areas and Buildings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	C. Ponds	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.	Chain Link Fence	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10.	Final Grading	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11.	Seeding			
	A. On-site	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	B. Off-site	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<u>SUPPORT ACTIVITY</u>				
16.	Surveying			
	D. Final and Intermediate Topos			
	d. Final Grade Topo	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

REMARKS

Minor gully erosion onsite. Full stand of grass not complete at this time but expected later in the growing season. Final topo drawings to be submitted with the Remedial Action Implementation Report. Erosion repairs and reseeded to be completed this fall. Seeding near the Holden WWTP to be completed this fall.

Clean Sites, established in 1984, is a national non-profit 501(c)(3) organization dedicated to solving America's hazardous waste problem. *Clean Sites* conducts policy analyses, facilitates dialogues, develops policy solutions and conducts educational and outreach activities -- all geared towards improving the hazardous waste cleanup process. In addition, *Clean Sites* provides direct assistance at sites through mediation among involved parties, allocation of cleanup costs, technical review and management of site studies and cleanup activities. *Clean Sites* is funded by government and foundation grants, private contributions and reimbursement for services.



CLEAN SITES

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